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(11) EP 1 189 351 A2

(12)

## EUROPEAN PATENT APPLICATION

(43) Date of publication:  
20.03.2002 Bulletin 2002/12

(51) Int Cl.7: H03L 7/10, H03L 7/099

(21) Application number: 01000388.7

(22) Date of filing: 17.08.2001

(84) Designated Contracting States:  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU  
MC NL PT SE TR  
Designated Extension States:  
AL LT LV MK RO SI

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(30) Priority: 18.08.2000 US 226348

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### (54) Method for tuning a voltage controlled oscillator

(57) A very fast lock integer N PLL with hybrid digital coarse VCO tuning and VCO temperature drift compensation provides for a fully digital tuning scheme without the need for charge pumps. A PLL synthesizer (300) using such a PLL design provides for very fast lock times by using an open loop step and a closed loop step. The

hybrid PLL can achieve coarse tuning within four clock cycles, while minimizing any errors caused by the VCO nonlinearity. Temperature tracking and compensation is also provided. A SAR implementation (100) and an interpolation tuning implementation (200) are also described.

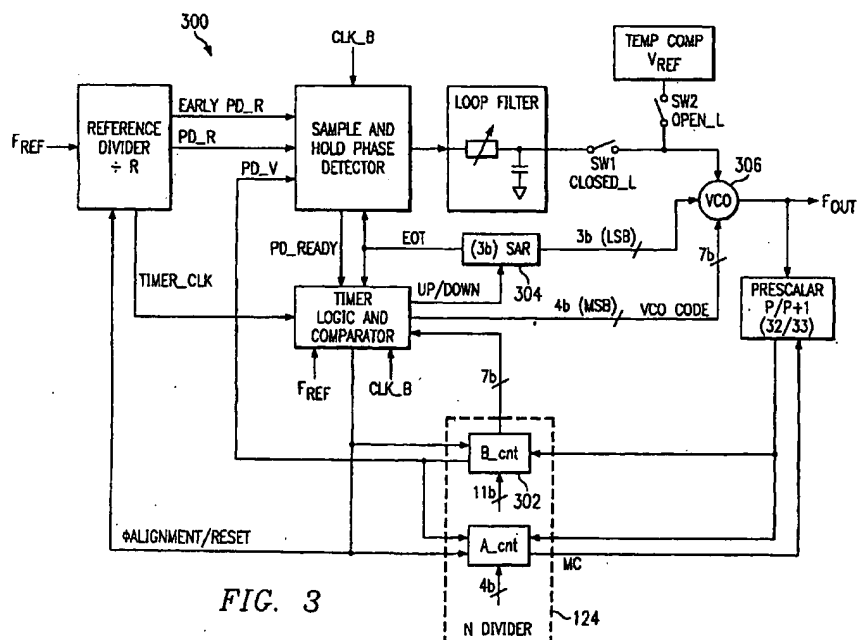


FIG. 3